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EXAMINER

TRAN, NHAN T

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/414,104

Applicant(s)

OKADA ET AL.

Examiner

Nhan T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-45 filed 10/31/2003 have been considered but are moot in view of the new ground(s) of rejection based on a new interpretation of the Mogi reference (US 6,115,064) and newly cited reference to Anderson et al (US 6,157,394).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 6, 8 – 10, 16, 23, 24, 31, 38 – 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mogi (US 6,115,064).

Regarding claim 1, Mogi discloses an electronic device comprising:
a mechanical driving member (106-111) which performs mechanical operations (see Fig. 5);

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a first system controller (camera controlling microcomputer 125) which controls the overall device including mechanical driving member (see Fig. 5; col. 6, lines 54-61 wherein the camera microcomputer 125 controls the operation of the entire camera including the mechanical member in lens device through lens microcomputer 115 when necessary);

a second system controller (lens microcomputer 115), which controls a part of the device, operating independently of the first system controller (see Fig. 5; col. 5, line 66 – col. 6, line 6, wherein the lens microcomputer controls the operations of the focusing lens 105, zooming lens 102 and iris 103 independently using the information transmitted via the feedback circuits 120 & 121);

wherein in accordance with turning on power supply to the first system controller (125), the second system controller (115) controls the mechanical driving member in parallel to a control preparatory operation for control on the overall device by the first system controller (see Fig. 6; col. 4, lines 13-17, 52-59 & col. 7, lines 17-21 and note that fading control operation is performed to prepare for a better display of captured images. The control preparatory operation of such fading for overall operation is initialized and ended by the camera microcomputer 125 in parallel to the lens initialization process that is performed by the lens microcomputer 115).

Mogi also discloses that each time power source is turned off, the reset operation of the lens unit is performed so that each lens can be correctly controlled (col. 10, lines 33-35). It should be noted that the power switch is connected to the camera microcomputer (125) via operating part (126). In light of this disclosure, there is a case when the power source is accidentally turned off and then turned on in a very short time so that the reset operation of the lens is still in operation while the initialization of the camera microcomputer is started again. By

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that time, it is obvious that regardless turning on of the power source to the camera microcomputer via the operating part, the control of the mechanical driving member is still operated. In another case, the power supply to the camera microcomputer can be on or off either by the user or by an accident regardless the control of the mechanical driving member by the lens microcomputer since the power supply is located on the camera microcomputer.

Therefore, it would have been obvious to one of ordinary skill in the art to recognize that the power supply to camera microcomputer is completely operable regardless of the control of the mechanical driving member by the lens microcomputer.

Regarding claim 2, camera microcomputer (125) is a central processing unit, and wherein the camera microcomputer starts an operating system immediately after turning on of the power supply to the camera and also operates a control application program (fading control application). It is noted that the camera must start an operating system before operating a control application program for fading (see col. 7, lines 17-21).

Regarding claim 6, Mogi also discloses that the second system controller (115) is a central processing unit (for the lens) and is always powered (see Figs. 5 & 6 wherein the power supply is always on).

Regarding claim 8, it is clear that the second system controller is a hard-wired logic circuit as shown in Fig. 5.

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Regarding claim 9, the first system controller must have processing speed faster than that of the second system controller since the first system controller controls the entire camera operation which must require a faster processing speed compared to the second system controller which only controls the lens device (see col. 6, lines 54-58).

Regarding claim 10, the electric consumption of the second controller must be lower than that of the first system controller because the first system controller controls the entire camera operation while the second system controller controls only the lens device which requires less power supply (see col. 6, lines 54-58).

Regarding claim 16, Mogi's camera clearly has an in-use status (when the camera is turned on and being used) and a non-use status (when the camera is turned off and not being used) which is different from the in-use status, and wherein the second system controller controls the mechanical driving member in parallel to the control preparatory operation on the overall device by the first system controller, so as to cause the device to enter the in-use status (powered on and used) from the non-use status (powered off and not used) as analyzed in claim 1.

Regarding claim 23, the limitations of the method claim are analyzed with respect to claim 1.

Regarding claim 24, the claimed limitations are analyzed with respect to claim 2.

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Regarding claim 31, the claimed limitations are analyzed with respect to claim 16.

Regarding claim 38, the claimed limitations are analyzed with respect to claim 1.

In addition, the computer program product having readable program code must be stored in a memory of the camera apparatus in order for the microcomputers 125 and 115 to execute instruction code to perform all functions as disclosed.

Regarding claim 39, the claimed limitations are analyzed with respect to claim 16.

4. Claims 40 – 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 6,157,394).

Regarding claim 40, Anderson discloses an image sensing apparatus (Fig. 1) comprising:
image sensing means (224) for converting an optical image of an object to electric signals and outputting the electric signals (see Figs. 1 & 2);

mechanical drive means (234) for driving a mechanical component (220) of the image sensing apparatus (see Fig. 2);

signal processing means (228 or 420) for generating image signals by processing the electric signals outputted from the image sensing means (see Figs. 2 & 5; col. 5, lines 4-25);

file system means for storing the image data generated by the image processing means to a storage medium (see Fig. 4; col. 4, line 60 – col. 5, line 3);

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control means (CPU 344) for controlling the mechanical drive means (via system bus 116 and interface 232), the signal processing means, and the file system means in response to turning on (at 356 & 342) of the image sensing apparatus (Figs. 2-4). Although Anderson does not explicitly disclose operations of initializations of the mechanical drive means, the signal processing means, and the file system means do not depend on each other (simultaneously initialized), Anderson clearly teaches a power supply (356), power management (342) and a CPU (344) wherein the CPU is capable of concurrently running multiple software routines to control various processes of the camera (110) within a multi-threading environment (multi-tasking capability) as described in col. 3, line 64 – col. 4, line 6.

It is obvious that when the power supply (356) is turned on, the CPU (344) starts the initializations of all controllable components including mechanical drive means (234), signal processing means and file system means since such initializations are necessary for the camera (110) to function properly. Although it is not specifically stated that the lens system is initialized, it would be obvious to perform initializations of the lens system, signal processing means and file system means independently and simultaneously in order to reduce startup time of the camera when the power supply is turned on.

Therefore, it would have been obvious to one of ordinary skill in the art to realize the advantage of the multi-threaded CPU as taught by Anderson to configure the operations of initializations of the mechanical drive means, the signal processing means and the file system means to run independently and simultaneously in a multi-tasking mode so that the startup time of the camera is greatly reduced.

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Regarding claim 41, Anderson shows the operation of obtaining information on the removable memory in Fig. 4.

Regarding claim 42, the information in the storage medium must include at least one of file format (JPEG) (see col. 6, lines 47-54).

Regarding claim 43, Anderson also shows motors (234) for driving lens (220) in Fig. 2.

Regarding claim 44, Anderson clearly discloses a real time, multi-threaded CPU as analyzed in claim 40.

5. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al (US 6,157,394) in view of Fukushima (JP 06-095754).

Regarding claim 45, Anderson does not teach a DMA controller wherein the CPU performs initialization of the mechanical drive means and signal processing means during idle time of the DMA. However, as taught by Fukushima, it is well known in the art that a DMA controller is implemented in a computer system to simultaneously transfer system file (processing program) from an auxiliary memory into system memory (system RAM) for the initialization process just after power source is turned on, and thereafter the DMA must be idle in order for the CPU to execute the processing program for initializing all system's functions as

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well as I/O devices of the system to shorten waiting time during system initialization (see Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art to further implement DMA process to simultaneously perform data transmission from a storage medium by file system means at the initialization by the DMA, and the CPU performs initialization of the mechanical drive means and signal processing means during idle time of the DMA for shortening waiting time during initialization processes.

6. Claims 3, 4, 25 & 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mogi (US 6,115,064) in view of Winter (US 4,521,678).

Regarding claim 3, Mogi does not teach that if the completion of the control preparatory operation has not been notified within a predetermined period from the first system controller since the turning on of the power supply to the first system controller, the second system controller returns the first system controller to a status before the power supply was turned on to the first system controller, and turns off the power supply to the first system controller. However, Winter teaches a power management control method during initialization process of computer means in which two control processes are implemented. Upon receiving the supply voltage after the power switch has been turned on, the computer means performs predetermined initialization procedures. If the computer means does not successfully complete the prescribed initialization procedures before the predetermined time interval elapses, the computer means must return the computer system to its initial status before the supply voltage was turned on to

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ensure proper operation of the system and then turns off the supply voltage to the system's circuitry to avoid excessive drain on the battery as suggest in col. 3, lines 42-46 & line 59 to col. 4, line 4.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the camera's initialization processes in Mogi by configuring the power management as taught by Winter so that if the completion of the control preparatory operation has not been notified within a predetermined period from the first system controller since the turning on of the power supply to the first system controller, the second system controller returns the first system controller to a status before the power supply was turned on to the first system controller, and turns off the power supply to the first system controller to ensure proper operation of the camera and avoid excessive drain on the battery.

Regarding claim 4, inherent in the system operation in Mogi and Winter is the predetermined period is longer than the period from turning on the power supply to the first system controller to normal completion of the control preparatory operation by the first system controller in order for the system to function properly.

Regarding claim 25, the claimed limitations are analyzed with respect to claim 3.

Regarding claim 26, the claimed limitations are analyzed with respect to claim 4.

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7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mogi (US 6,115,064) in view of Yamagami et al (US 6,229,954).

Regarding claim 7, Mogi discloses the power source in the video camera apparatus is turned on by the first system controller via operating part (126) as shown in col. 6, lines 61-63 & col. 7, lines 17-20. Mogi does not disclose that the second system controller (115) controls the power source to the first system controller. However, Yamagami teaches an obvious design variation in which an operation part (15) consisting all operating buttons including a power switch for turning on power supply to the camera is controlled by the mechanical and operation part control CPU (4). This mechanical and operation part control CPU (4) must also control the power supply to the system control CPU (13) (see Fig. 5; col. 16, lines 24-30 for all operating buttons of the camera located in operation part 15 and under control of CPU 4).

Therefore, it would have been obvious to one of ordinary skill in the art to configure the power supply to be either controlled by the first or second system controller in the camera as an obvious design variation.

8. Claims 11, 17, 28 & 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mogi (US 6,115,064).

Regarding claim 11, although Mogi discloses that the camera is a video camera instead of a digital still camera, it is notoriously well known in the art to configure a video camera to capture a still image.

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Therefore, it would have been obvious to one of ordinary skill in the art to configure a video camera to capture a still image in a still mode.

Regarding claim 17, the claimed limitations are analyzed with respect to claims 1 & 11.

Regarding claim 28, the claimed limitations are analyzed with respect to claim 11.

Regarding claim 32, the claimed limitations are analyzed with respect to claim 17.

9. Claims 12 – 15, 18 – 22, 29 – 30 & 33 – 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mogi (US 6,115,064) in view of Goo et al (US 5,309,195).

Regarding claim 12, Mogi does not teach mechanical driving member including a lens barrier which protects the optical system of the digital still camera. However, Goo teaches a lens cap which is used for protecting the optical system of the camera (see col. 3, lines 35-37).

It would have been obvious to one of ordinary skill in the art to provide the camera with a lens barrier to protect the lens device from damage or dirt.

Regarding claim 13, Goo teaches that the lens cap is opened by operating the lens group driving motor in clockwise when the power switch is turned on in parallel to the control preparatory operation as analyzed in claim 1 (see Goo in Fig. 2, col. 3, lines 43-50 for steps 110, 120, 130, 170, 180).

Regarding claim 14, Mogi does not teach that the mechanical driving member includes a collapsible barrel of the digital camera. As taught by Goo, it is clear that the camera includes a collapsible barrel to retract the lens and close the lens cap by operating the lens group driving motor in counterclockwise direction until the lens cap is closed which also indicates that the lens group has been collapsed into the camera body (see Fig. 2).

It would prevent lens device from damage by using collapsible lens type wherein the lens group is retracted into the camera body when power supply is turned off.

Therefore, it would have been obvious to one of ordinary skill in the art to implement the collapsible lens type for preventing the lens device from damage when the power supply is turned off and the camera is not in use.

Regarding claim 15, the claimed limitations are analyzed with respect to claim 13.

Regarding claim 18, the claimed limitations are analyzed with respect to claim 14 (see Goo, Fig. 2; col. 3, lines 54-66 for the lens device being collapsed into the camera body when a predetermined time is passed without any input operation from the user).

Regarding claim 19, Goo also teaches that the lens device is extending to a wide-angle side position (forward direction) from collapsed position (at lens cap closed in step 130) when the power control switch is turned on (see Fig. 2; col. 3, lines 43-45).

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Regarding claim 20, the claimed limitations are analyzed with respect to claim 12.

Regarding claim 21, Goo discloses the lens cap being opened when the camera is in an image sensing enabled status as shown in Fig. 2 at steps 100-190.

Regarding claim 22, when the camera is not used and being turned off, the lens barrier which protects the image sensing lens is closed (see Fig. 2).

Regarding claim 29, the claimed limitations are analyzed with respect to claims 12 & 13.

Regarding claim 30, the claimed limitations are analyzed with respect to claims 14 & 15.

Regarding claim 33, the claimed limitations are analyzed with respect to claim 18.

Regarding claim 34, the claimed limitations are analyzed with respect to claim 19.

Regarding claim 35, the claimed limitations are analyzed with respect to claim 20.

Regarding claim 36, the claimed limitations are analyzed with respect to claim 21.

Regarding claim 37, the claimed limitations are analyzed with respect to claim 22.

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10. Claims 5 & 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mogi (US 6115064) in view of Goo et al (US 5,309,195) and in further view of Ozawa (US 5,721,987).

Regarding claim 5, Mogi shows the operating part (126) for operating the camera in Fig. 5; col. 6, lines 61-63.

Mogi does not teach that if no operation instruction has been inputted by the operation unit within a predetermined period, the second system controller returns the mechanical driving member to a status before the power supply was turned on to the first system controller, and turns off the power supply to the first system controller. However, as taught by Ozawa, the camera power source is turned off when no input operation has been performed for five minutes for prolonging the useful life of the power source for the camera (see col. 7, lines 20-23).

Therefore, it would have been obvious to one of ordinary skill in the art to modify Mogi with Ozawa by including power management control for automatically turning off the camera power source if no operation instruction has been inputted within a predetermined period for prolonging the useful life of the power source for the camera.

Although Mogi and Ozawa do not expressly teach that the mechanical driving member is returned to initial state before the power supply was turned on, this mechanical driving operation is well known in the art and is taught by Goo for driving lens group as well as lens cap to the initial state of closed or off position after a predetermined time is passed for safety retracting the lens device into camera body and saving camera power consumption as shown in Fig. 2, col. 1, lines 52-53; col. 3, line 54 – col. 4, line 2.

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Therefore, it would have been obvious to one of ordinary skill in the art to combine Mogi, Ozawa and Goo to implement a complete power management and mechanical driving processes for a camera by returning mechanical driving member to a status before the power supply was turned on to the camera system controller and turning off the power supply to the camera system controller in case there has been no operation instruction has been inputted by the operation unit within a predetermined period for safety retracting the lens device into camera body and saving camera power consumption.

Regarding claim 27, the claimed limitations are analyzed with respect to claim 5.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (703) 605-4246. The examiner can normally be reached on Monday - Thursday, 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew B Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

NT.



ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600